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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,088	12/02/2003	Reed J. Blau	2507-6010US(2/2031-US-03)	6016
60794	7590	10/01/2008		
TRASKBRITT, P.C./ ALLIANT TECH SYSTEMS				
P.O. BOX 2550				
SALT LAKE CITY, UT 84110				
EXAMINER				
HWU, DAVIS D				
ART UNIT		PAPER NUMBER		
3752				
NOTIFICATION DATE		DELIVERY MODE		
10/01/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

### Office Action Summary

**Application No.**

10/727,088

**Applicant(s)**

BLAU ET AL.

**Examiner**

Davis D. Hwu

**Art Unit**

3752

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-16, 18-67, 69-90 and 94-119 is/are pending in the application.
- 4a) Of the above claim(s) 29, 30, 66 and 67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-16, 18-28, 31-65, 69-90 and 94-119 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-849)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/7/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. Applicant's amendment and arguments of August 18, 2008 have been entered.

This case is being re-opened for prosecution.

2. The non-elected claims 29, 30, 66, and 67 claim limitations to the igniter which would make the device of a different species since such igniters can also be electric squibs for example.

The restriction therefore stands and is made final.

3. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

5. Claims 1-5, 7-14, 18, 22-25, 57-65, 69, and 72-75, 77, 78, 96-106, and 115-119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith (US Patent 5,449,041) in view of Blomquist.

Galbraith discloses a fire suppression system comprising a chamber 12 and at least one gas generant 14 housed therein, the gas generant formulated to pyrotechnically produce an inert gas mixture comprising carbon dioxide in a concentration equal to the concentration pyrotechnically produced by the at least one gas generant. The system also comprises an igniter 32 and a heat management system 38 as recited in claims 2 and 3 and at least one solid as recited in claim 4 (Column 4, line 66). Galbraith also discloses the propellant generating nitrogen gas and a slag. Blomquist teaches a gas

generating composition comprising a non-azide composition to pyrotechnically produce carbon dioxide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Galbraith et al. by using a non-azide composition to produce an inert gas mixture having the recited carbon dioxide concentration as has already been taught by Blomquist. Making the concentration less than or equal to the Immediately Harmful to Life or Health concentration would have been an obvious safety and health requirement. The device will carry out the methods of claims 57-61. The limitations of claims 22, 62, and 72 would have been matters of design choice depending on the systems requirements for a particular application. It is well known that fires are extinguished by reducing an oxygen content in a space. The amount of CO<sub>2</sub> as recited in claim 115 would have been a matter of design choice. The amounts of carbon dioxide produced as recited in claims 96, 97, 118 and 119 would have been matters of design choice. Regarding claims 97-100, the prior art does recite significant amounts of carbon monoxide, nitric oxide, nitrogen dioxide, or ammonia being produced.

6. Claims 15, 70, 79, 80, 94, and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and further in view of Taylor et al. and Moore et al.

Taylor et al. teaches a gas generant comprising cupric oxide and titanium dioxide and Moore et al. teaches a gas generant comprising hexa(amine)cobalt-nitrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the gas generant of Galbraith and Blomquist comprising a

combination of the elements as taught by Taylor et al. and Moore et al. since Taylor et al. and Moore et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.

7. Claims 16, 71, and 81-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and in further view of Taylor et al. and Hinshaw et al.

Taylor et al. teaches a gas generant comprising cupric oxide and titanium dioxide and Hinshaw et al. teaches a gas generant comprising hexa(amine)cobalt-nitrate and polyacrylamide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the gas generant of Galbraith and Blomquist comprising a combination of the elements as taught by Taylor et al. and Hinshaw et al. since Taylor et al. and Hinshaw et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant. The components would re-crystallize upon cooling.

8. Claims 19-21 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in Blomquist and further in view of Knowlton et al.

Knowlton et al. teaches a gas generant comprising a phase change material including lithium nitrate, sodium nitrate, and potassium nitrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included into the gas generant of Galbraith and Blomquist a phase change material comprising the various nitrates as recited in order to manage the heat as taught by Knowlton et al.

9. Claims 26-28, 31-45, 48, 49, and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and in further view of Drakin. Drakin discloses the heat management comprising an effluent train. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Galbraith and Blomquist to use an effluent train in the heat management system since such arrangements have already been taught by Drakin. The gas generant being configured into at least one pellet would have been an obvious matter of design choice since such a modification would involved a mere change in the shape of an object which is generally recognized as being within the level or ordinary skill in the art. Regarding claim 37, the percentage as recited would have been a matter of design choice in producing a safe concentration of the substances. The limitations of claim 53 would have been matters of design choice depending on the systems requirements for a particular application. It is well known that fires are extinguished by reducing an oxygen content in a space.

10. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view Blomquist and Drakin and in further view of Taylor et al. and Moore et al.

Taylor et al. teaches a gas generant comprising cupric oxide and titanium dioxide and Moore et al. teaches a gas generant comprising hexa(ammine)cobalt-nitrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the gas generant of Galbraith, Blomquist, and Drakin comprising a combination of the elements as taught by Taylor et al. and Moore et al. since Taylor et

al. and Moore et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.

11. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and Drakin and in further view of Taylor et al. and Hinshaw et al.

Taylor et al. teaches a gas generant comprising cupric oxide and titanium dioxide and Hinshaw et al. teaches a gas generant comprising hexa(amine)cobalt-nitrate and polyacrylamide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the gas generant of Galbraith, Blomquist, and Drakin comprising a combination of the elements as taught by Taylor et al. and Hinshaw et al. since Taylor et al. and Hinshaw et al. teach such elements for forming a gas generant are known in the art and the combination of these elements would properly form a gas generant.

12. Claims 50-52 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and Drakin and further in view of Knowlton et al. Knowlton et al. teaches a gas generant comprising a phase change material including lithium nitrate, sodium nitrate, and potassium nitrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included into the gas generant of Galbraith, Blomquist, and Drakin a phase change material comprising the various nitrates as recited in order to manage the heat as has been taught by Knowlton et al.

13. Claims 107-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galbraith in view of Blomquist and in further view of Hinshaw et al. Hinshaw et al. teaches a gas generant comprising hexa(ammine)cobalt-nitrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the gas generant of Galbraith and Blomquist comprising a combination of the elements as taught by Taylor et al. and Hinshaw et al. since Taylor et al. and Hinshaw et al. teach such elements for forming a gas generant are know in the art and the combination of these elements would properly form a gas generant. The amount of CO<sub>2</sub> produced and the components would have been matters of design choice.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis D. Hwu whose telephone number is 571-272-4904. The examiner can normally be reached on 8:00-4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on 571-272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

/Davis D Hwu/  
Primary Examiner, Art Unit 3752